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**Kamen et al.**(10) **Pub. No.: US 2021/0248736 A1**(43) **Pub. Date: Aug. 12, 2021**(54) **LOCALIZATION AND CLASSIFICATION OF  
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**ABSTRACT**

Systems and methods are provided for classifying an abnormality in a medical image. An input medical image depicting a lesion is received. The lesion is localized in the input medical image using a trained localization network to generate a localization map. The lesion is classified based on the input medical image and the localization map using a trained classification network. The classification of the lesion is output. The trained localization network and the trained classification network are jointly trained.

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